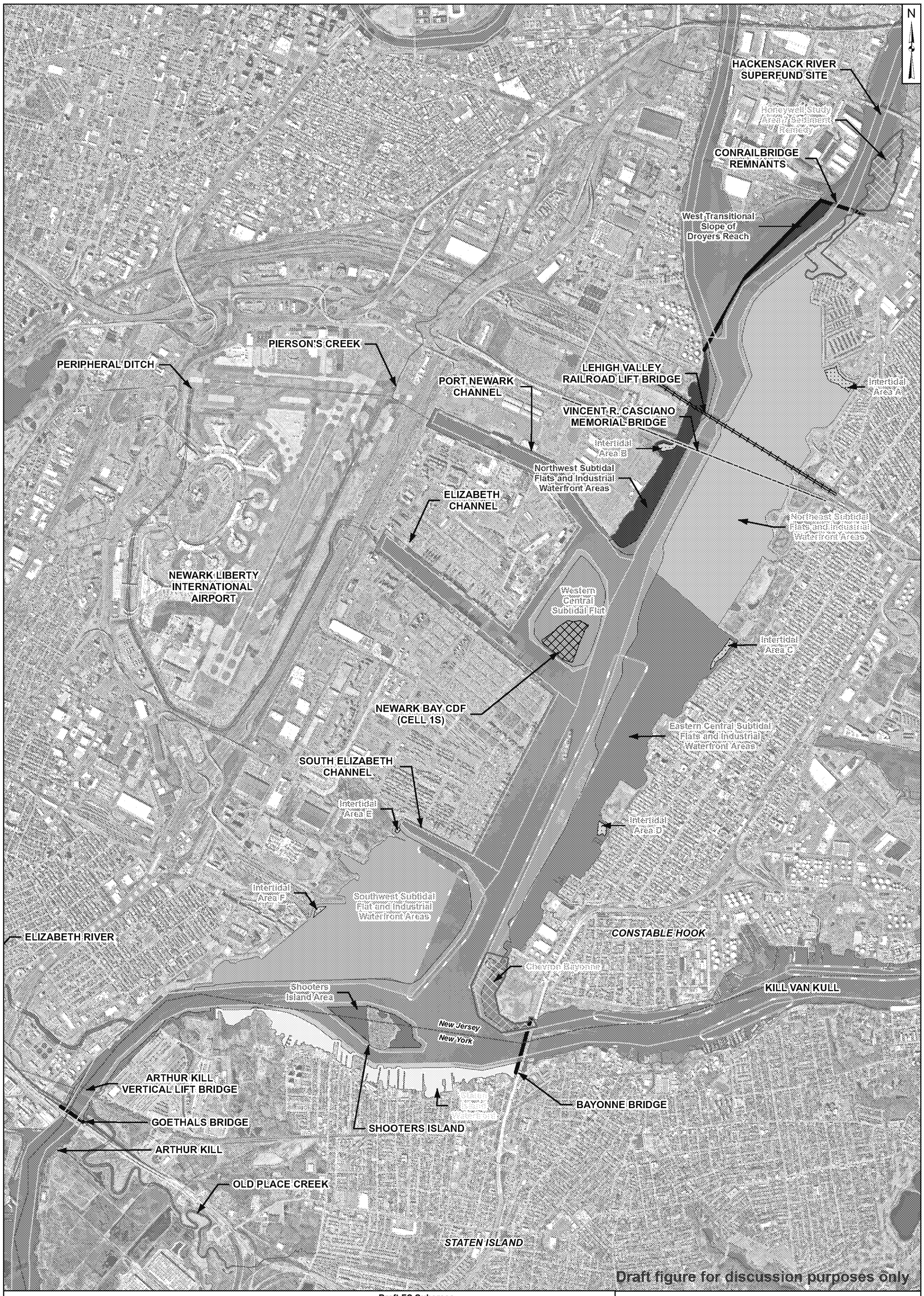


Legend

- Newark Bay Study Area Boundary
- Current Navigation/Port Channel (No Action)
- Shoreline
- State Boundary
- CDF Boundary (No Action)
- Current Navigation/Port Channel Transitional Slopes (No Action)
- USACE Harbor Deepening and Channel Improvements (including 3:1 transitional slope)
- Remedial Investigations or Actions by Others

Draft FS Subareas

- Northwest Subtidal Flats and Industrial Waterfront Areas
- West Transitional Slope of Droyers Reach
- Northeast Subtidal Flats and Industrial Waterfront Areas
- Eastern Central Subtidal Flats and Industrial Waterfront Areas
- Shooters Island
- Southwest Subtidal Flat and Industrial Waterfront Areas
- Staten Island Waterfront
- Western Central Subtidal Flat
- Intertidal Areas

0 3,000 Feet

FS Subareas

Newark Bay Study Area Feasibility Study

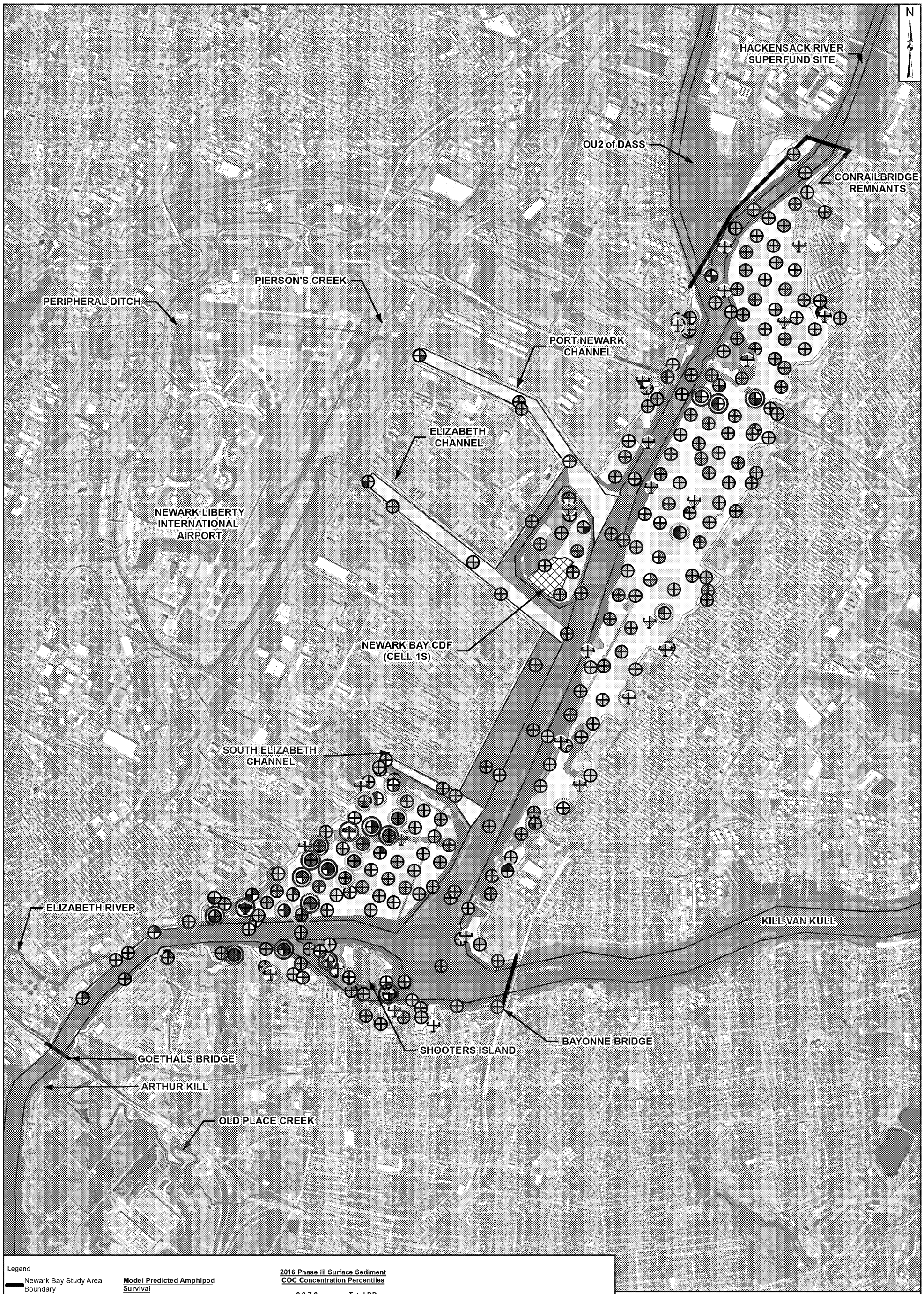
Geosyntec consultants

Acton, MA | September 2022

Figure 1

Notes:
1. Footprint of Honeywell Study Area 7 Sediment Remedy is approximated from the *SA7 Sediment Remedy Area included in the Study Area 7 Sediment Remedy, Documentation and Remedial Action Summary Report* (Honeywell 2014).
2. Footprint of Chevron Bayonne is approximated from remedial investigation footprint included in the *Supplemental Remedial Investigation Report for the Former Texaco Refining and Marketing Inc. and Former Pirelli Cable Company Site (Chevron Bayonne)* (Parsons 2016).

Q:\GISProjects\BR0634_NBSA\MXD\Figures\GeosyntecSubunits.mxd 9/19/2022 10:56:51 AM



Legend

- Newark Bay Study Area Boundary
- Navigation Channel
- Shoreline
- CDF Boundary
- USACE Harbor Widening (3:1 Transitional Slopes)

Geomorphic Areas:

- Historically Disturbed Subtidal Flats
- Industrial Waterfront
- Intertidal
- Navigation Channel
- Port Channel
- Sub-Tidal Flats
- Transitional Slopes

Model Predicted Amphipod Survival

- Model Predicted 10 Day Amphipod Survival <80% of Controls Only
- Model Predicted 28 Day Amphipod Survival <80% of Controls Only
- Model Predicted 10 Day and 28 Day Amphipod Survival <80% of Controls Only
- Toxicity Sample Location

2016 Phase III Surface Sediment COC Concentration Percentiles

2,3,7,8-TCDD; Total DDx (4,4'); Total PCB Congeners; Mercury

- <75th Percentile of the Surface Sediment Concentration Dataset
- 75th - 90th Percentile of the Surface Sediment Concentration Dataset
- 90th Percentile of the Surface Sediment Concentration Dataset

Acronyms:
1. %: Percent
2. 2,3,7,8-TCDD: 2,3,7,8-tetrachlorodibenzo-p-dioxin
3. CDF: confined disposal facility
4. COC: compound of concern
5. PCB: polychlorinated biphenyls
6. Total DDx (4,4'): sum of 4,4'-DDE, 4,4'-DDD, and 4,4'-DDT

0 3,000 Feet

COC Concentration Percentiles and Model Predicted Amphipod Survival Rate Within OU3 of DASS

Newark Bay Feasibility Study

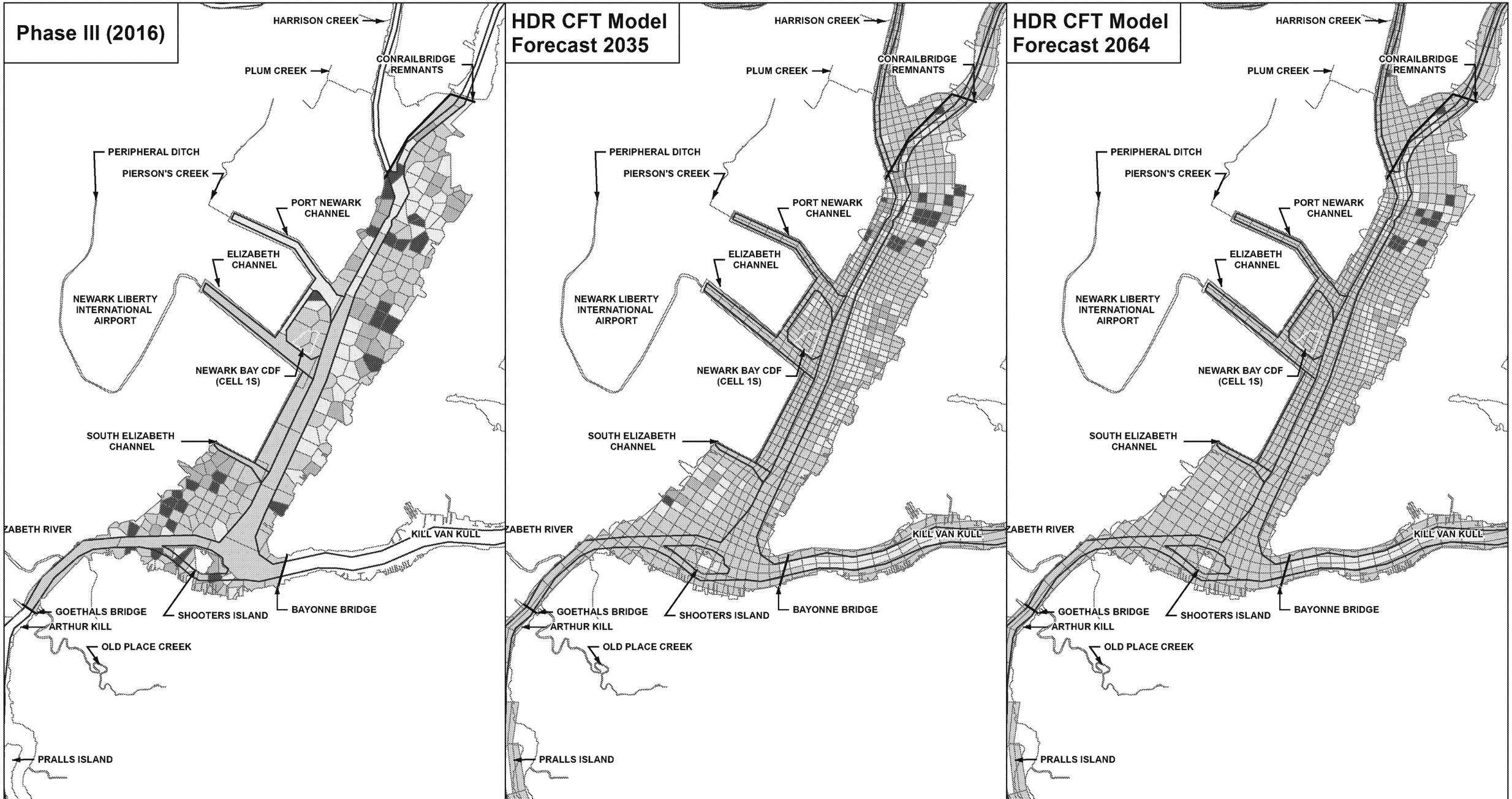
Geosyntec consultants

Acton, MA | September 2022

Figure 2

Draft figure for discussion purposes only

Q:\GISProjects\BR0634_NBSA\MXD\Figures\Figure 1 - Pie Slice Map - Geomorphic Test.mxd 9/12/2022 4:37:37 PM



Legend

2,3,7,8-TCDD (ng/kg)
- ≤ 14.7
- 14.7 - 45
- 45 - 83.3
- 83.3 - 148
- > 148

- Newark Bay Study Area Boundary
- Navigation Channel
- Shoreline
- CDF Boundary

Notes:
1. 2,3,7,8-TCDD: 2,3,7,8-tetrachlorodibenzo-p-dioxin
2. CDF: confined disposal facility
3. CFT: contaminant fate and transport
4. ng/kg: nanograms per kilogram
5. OU: operable unit
6. RI: remedial investigation
7. Ranges presented for results are based on the 25th, 50th, 75th, and 90th percentile of the surface sediment RI Phase III dataset.

Draft figure for discussion purposes only

N

0 5,500 Feet

Surface Sediment 2,3,7,8-TCDD RI Phase III and Forecasted Concentrations

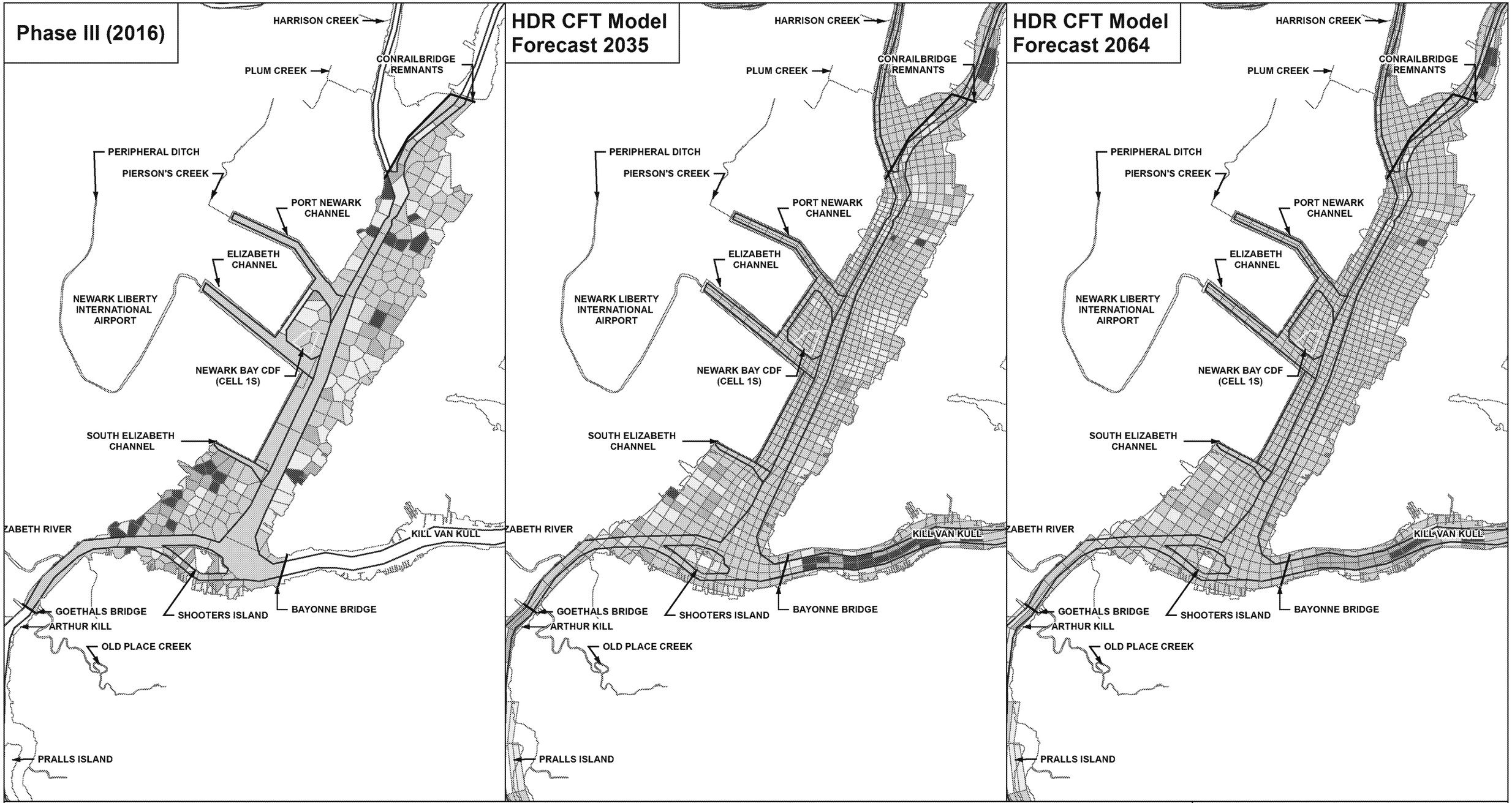
Newark Bay Study Area Feasibility Study

Geosyntec consultants

Acton, MA | September 2022

Figure 3

Q:\GISProjects\BR0634_NBSA\MXD\Figures\ThiessenPolygons\Figure 1 - Thiessen Polygons TCDD.mxd 9/9/2022 6:26:29 PM



Legend

Total PCB Congeners (µg/kg)

- ≤ 137
- 137 - 348
- 348 - 614
- 614 - 1,160
- > 1,160

- Newark Bay Study Area Boundary
- Navigation Channel
- Shoreline
- CDF Boundary

Notes:
1. CDF: confined disposal facility
2. CFT: contaminant fate and transport
3. µg/kg: micrograms per kilogram
4. OU: operable unit
5. PCBs: polychlorinated biphenyls
6. RI: remedial investigation
7. Ranges presented for results are based on the 25th, 50th, 75th, and 90th percentile of the surface sediment RI Phase III dataset.

Draft figure for discussion purposes only

N

0 5,500 Feet

Surface Sediment : Total PCBs and Forecasted Concentrations **Phase III**

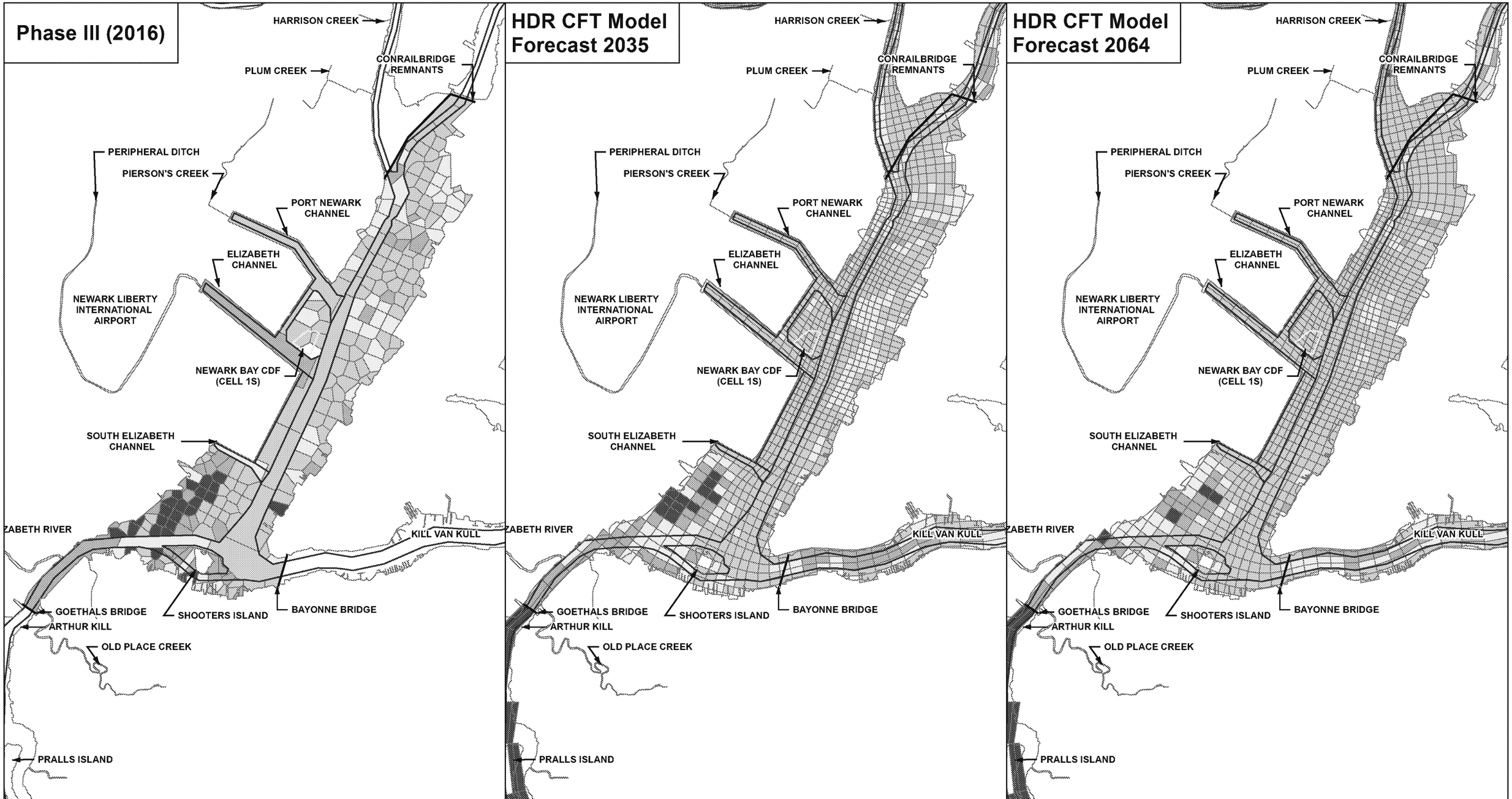
Newark Bay Study Area Feasibility Study

Geosyntec consultants

Acton, MA | September 2022

Figure 4

Q:\GISProjects\BR0634_NBSA\MXD\Figures\ThiessenPolygons\Figure 2 - Thiessen Polygons Total PCB.mxd 9/9/2022 6:31:08 PM



Legend

Total DDx (4,4') (µg/kg)

- ≤ 16
- 16 - 27
- 27 - 66
- 66 - 210
- > 210

- Newark Bay Study Area Boundary
- Navigation Channel
- Shoreline
- CDF Boundary

Notes:
1. CDF: confined disposal facility
2. CFT: contaminant fate and transport
3. ng/kg: nanograms per kilogram
4. OU: operable unit
5. RI: remedial investigation
6. Total DDx (4,4'): sum of 4,4'-DDE, 4,4-DDD, and 4,4'-DDT
7. Ranges presented for results are based on the 25th, 50th, 75th, and 90th percentile of the surface sediment RI Phase III dataset.

Draft figure for discussion purposes only

N

0 5,500 Feet

Surface Sediment Total DDx (4,4') RI Phase III and Forecasted Concentrations

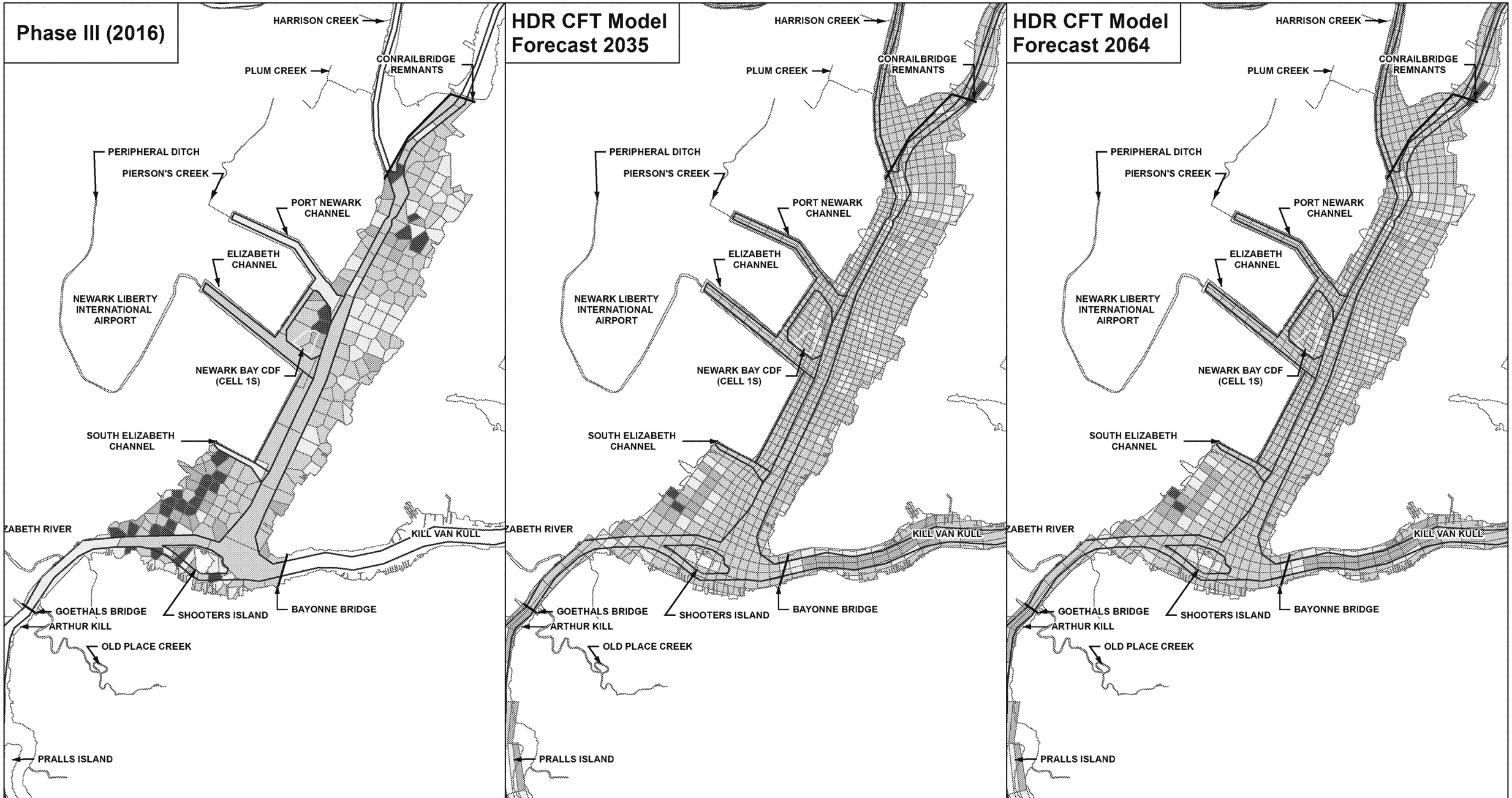
Newark Bay Study Area Feasibility Study

Geosyntec consultants

Acton, MA | September 2022

Figure 5

Q:\GISProjects\BR0634_NBSA\MXD\Figures\ThiessenPolygons\Figure 3 - Thiessen Polygons Total DDx.mxd 9/9/2022 6:32:34 PM



Legend

Mercury (mg/kg)
- ≤ 0.881
- 0.881 - 1.58
- 1.58 - 2.97
- 2.97 - 5.73
- > 5.73

- Newark Bay Study Area Boundary
- Navigation Channel
- Shoreline
- CDF Boundary

Notes:
1. CDF: confined disposal facility
2. CFT: contaminant fate and transport
3. mg/kg: milligrams per kilogram
4. OU: operable unit
5. RI: remedial investigation
6. Ranges presented for results are based on the 25th, 50th, 75th, and 90th percentile of the surface sediment RI Phase III dataset.

Draft figure for discussion purposes only

N

0 5,500 Feet

Surface Sediment Mercury RI Phase III and Forecasted Concentrations

Newark Bay Study Area Feasibility Study

Geosyntec consultants

Acton, MA | September 2022

Figure 6

Q:\GISProjects\BR0634_NBSA\MXD\Figures\ThiessenPolygons\Figure 4 - Thiessen Polygons Mercury.mxd 9/9/2022 6:36:11 PM